

On Aug 7, 2015, at 11:13 PM, Griswold, Hays <[Griswold.Hays@epa.gov](mailto:Griswold.Hays@epa.gov)> wrote:

Thank you very much for the timely information we will check other sources our estimate was based on the estimated volume of the adit evacuated by the water.

Thanks again

Hays

Sent from my iPad

On Aug 7, 2015, at 3:28 PM, Paul Davis  
<[p\\_davis@envirologicinc.com](mailto:p_davis@envirologicinc.com)> wrote:

Dear Mr. Griswold,  
I just performed a similar analysis for the USGS  
gaging station on Cement Creek.

I get just over 3 million gallons.

Now it is possible I have a systematic error so these  
estimates need to be independently reviewed

hope this helps,

IF you want or need to talk to me I will be traveling  
to Farmington, New Mexico this afternoon but you  
can call me at 505-688-6053

Sincerely,

Paul Davis

Begin forwarded message:

**From:** Paul Davis  
<[p\\_davis@envirologicinc.com](mailto:p_davis@envirologicinc.com)>  
**Subject:** analysis of the  
amount of water released into

**the Animas**

**Date:** August 7, 2015 at 12:34:21  
PM MDT

**To:** [griswold.hays@epa.gov](mailto:griswold.hays@epa.gov)

Dear Mr. Griswold,  
We spoke briefly in the Durango  
Coffee Shop this morning. I am a  
hydrologist (mainly groundwater)  
and, using the USGS gaging station  
at Silverton, estimated the quantity  
of Wednesday's release.

Here is the hydrograph from the days  
before, during and after the spill.  
(<http://waterdata.usgs.gov/nwis/uv?09359020>)

<PastedGraphic-1.tiff>

The spill clearly shows up on August  
5th.

I took the period of record from late  
on the 4th to the evening of the 5th  
and estimated the trend of the base  
flow (flow that would have occurred  
without the spill. I then subtracted  
that estimated base flow from the  
flow during the spill. Next  
integrated (added up) the flow under  
the remaining curve (which is just a  
curve of the spill minus base flow.

I get about 420,000 cubic feet (the  
number I mistakenly told you this  
morning as gallons) or about  
3,160,000 gallons. See the attached  
spreadsheet.

A WORD OF CAUTION — this  
analysis was done in a hurry and  
must be checked by someone else.

Also - a cross check of the analysis  
could be performed by analyzing

USGS gaging station records from  
their station on the Animas at  
Durango.

I have time later today if you want to  
meet and discuss this analysis.

I do hope it is useful to you.

Sincerely,

**Paul Davis**  
**EnviroLogic Inc.**  
**736 Main Street, Suite 5**  
**Durango, Colorado 81301-8621**

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<Analysis of spill into the  
Animas\_5August2014.xlsx>

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